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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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07/702,615 05/17/91 BAINES

R F-8913(859-1)

MM12/1230
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EXAMINER

TAMAIL, K

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

12/30/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
07702,615

Applicant(s)
Baines

Examiner
Karl Tamal

Group Art Unit
2834



☒ Responsive to communication(s) filed on Oct 18, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 48, 51-58, 60-67, 72, 75-79, and 93 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 48, 51-58, 60-67, 72, 75-79, and 93 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on Apr 12, 1999 is ☐ approved ☒ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Drawings

1. The objection to the drawings under 37 CFR 1.83(a) is withdrawn.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 48, 51-58, 60-67, 72, and 75-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mabuchi, '450, and '953. Mabuchi teaches a motor having two sets of diametrically opposed brush assemblies, where each brush assemblies contains two brushes 1 contacting the same segment 4 of cylindrical commutator. Each brush having a brush body 1 and a support arm 2. Mabuchi does not each support arm being a different resonant frequency due to different materials in the brush arm or a slot in one of the brush arms or brush bodies mounted by interference fit into apertures on the support arm. '450 teaches that brush arms with different weights due to different dimension of the adjacent brush arms varies the intrinsic vibrating frequency of each arm to reduce noise and unequal rotation in the motor. It is inherent that the different brush arms cause a reliable brush contact with the commutator. '450 does not teach different materials in the brush arms. '953 teaches the equivalency of different size brushes, brushes of different materials, and a slit in one of the brushes to change the resonant frequency

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between two brush arms. '953 teaches brushes 6 mounted by interference fit into apertures 7 on the support arms. It would have been obvious to a person skilled in the art at the time of the invention to construct the motor of Mabuchi with the brush arms having different resonant frequency due to the use different materials in the brush arms or a slot in one of the arms because '450 teaches that different resonant frequencies in adjacent brushes reduces noise and unequal rotation in a motor and because '953 teaches the equivalence of changing the resonance frequency in two brush arms by different size brush arms, different materials in the brush arms, and a slot in one of the brush arms, where selection of know equivalents is within the ordinary skill in the art..

4. Claim 93 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 59-30,672 ('672) and Mabuchi. '672 teaches a brush assembly with first and second support arms 7a, 7b, where each arm has a brush body 10,11 which contact the same commutator 8 segment. The brush bodies being of different materials, inherently have different resonance frequencies. '672 suggests but does not teach the brushes connected electrically in parallel. Mabuchi teaches the brush of '672 (figure 2) being electrically connected in parallel. It would have been obvious to a person skilled in the art at the time of the invention to construct the brush assembly of '672 with the brushes electrically connected in parallel to provide electrical current to the commutator, as taught by Mabuchi.

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Response to Arguments

5. Applicant's arguments filed October 18, 1999 have been fully considered but they are not persuasive. The applicant's argument regarding the obviousness of combining different types of brush contacts is not persuasive. A person skilled in the brush art would be well aware of the advances in all the brush contacts and would use them to improve the brush art. Additionally, JP 59-30,672 teaches the the equivalence of a brush having a adjacent finger contacts(no brush material..in figure 2) and finger contacts with brush material(figure 3). The Applicant's distinction between his supposes groups 1 and 2 are only what makes contact with the commutator, rather than separate classes of inventions as suggested by the Applicant.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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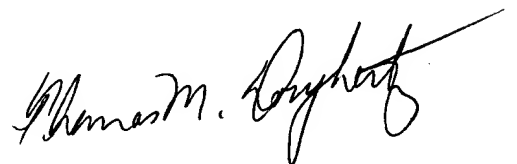
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl I.E. Tamai whose telephone number is (703) 305-7066. The examiner can be normally contacted on Monday through Friday from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Nestor Ramirez, can be reached at (703)308-1371. The facsimile number for the Group is (703)305-3432.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1782.



Karl I Tamai
December 27, 1999


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